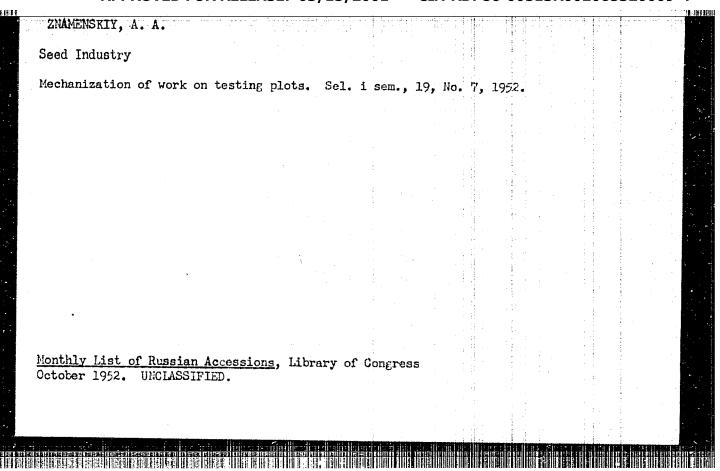
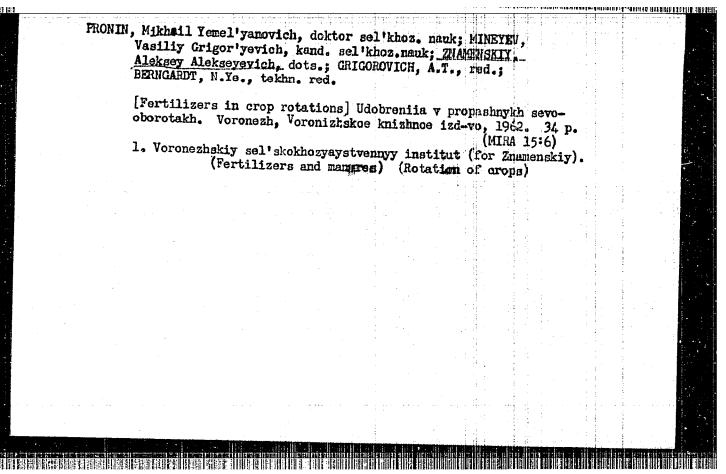
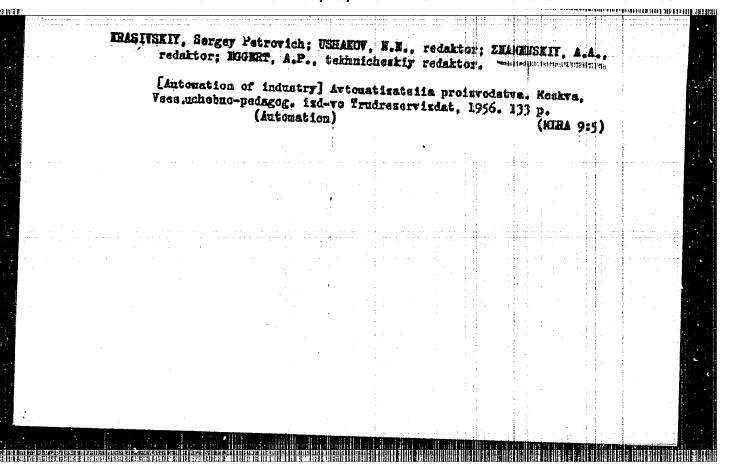
ZHIDELEV, M.A.; KALASHNIKOV, A.G.; GRACHEV, A.P., red.; ZHAMENSKIY,
A.A., red.; SHAFOSHNIKOVA, A.A., red.

[Mechanical engineering in school] Mashinovedenie v shkole.

Moskva, Izd-vo AFN, 1961. 187 p. (MIRA 17:4)







KUZNETSOV, Mikhail Ivanovich; STRAKHOV, S.V., doktor tekhn.mauk, red.;

ZNAMENSKIY, A.A., red.; TOKER, A.M., tekhn. red.

[Fundamentals of electrical engineering]Osnovy elektrotekhniki.
8. izd., stereotipnoe. Pod red. S.V.Strakhova. Moskva, Proftekhizdat, 1962. 559 p.

(Electric engineering)

(MIRA 16:2)

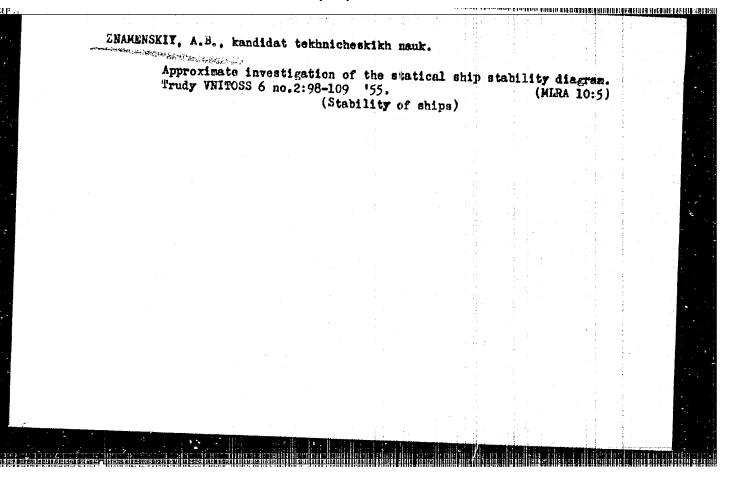
KUSHCHENKO, Vasiliy Semenoviqh; ZNAMENSKIY A.B., neuchnyy red.;

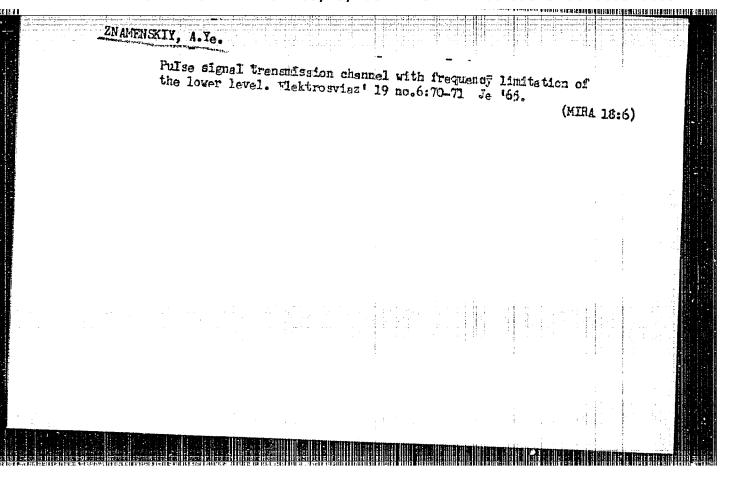
KLIORINA, T.A., red.; EMESTOVA, N.V., tekhn.red.

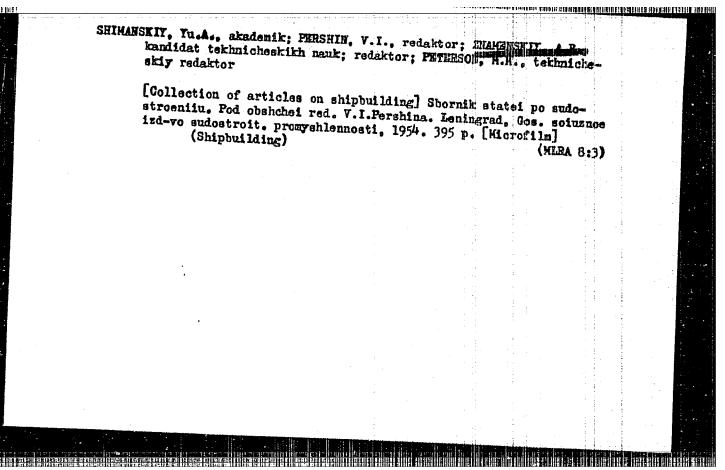
[Collection of mathematical problems used in competitive examinations and their solutions] Sbornik konkuranykh zadach po matematike a resheniiami. Leningrad, dos.soluznos izd-vo sudoatroit.promyshl., 1960, 371 p.

(Mathematics--Problems, exercises, etc.)

(MIRA 13:10)







BEZEUK, V.K.; MOTTLEY, Yu.L.; GROT. A.I.; ZEAMENSKIT. A.I.; IRRUSALIMSKAYA.

N.F.; GERBURT-GETHOVICH. A.V., redaktor; LOVALIMINEN, W.F., tekhni
[Building roads on saline soils and shifting sands] Stroitel'stvo
dorog no zasolennykh gruntakh i podvizhnykh peskakh. Moskva.

Avtotransizdat, 1953. 202 p.

1. Moscov. Dorozhnyy nauchno-issledovatel'skiy institut.

(Boad construction)

"In the Institute of Geology"
Izv. AN Turkm SSR, 1953, No 5, 97

The author reports on the laboratories and field investigations of the Institute of Geology, Academy of Sciences of the Turkmenian SSR, in the field of acrodynamics of wind-sand current in order to solve the problem of fighting against drifting sands. (RZhGeol, No 3, 1954)

S0: W-31187, & Mar 55

# ZWAKEUSKIY, A.I. I.A.Volkov's article "Character of wind flow on the lee-side of barkhans." Izv.Vses.geog.ob-va 89 no.3:259-261 My-Je '57. (Sand dunes) (Volkov, I.A.) (Sand dunes) (Volkov, I.A.)

ZNAMENSKIY, A. I.

Cand Geograph Sci

Dissertation: "Wind Errosion and the Relief of Sand Deserts."

15 April 49

Inst of Geography, Acad Sci USSR

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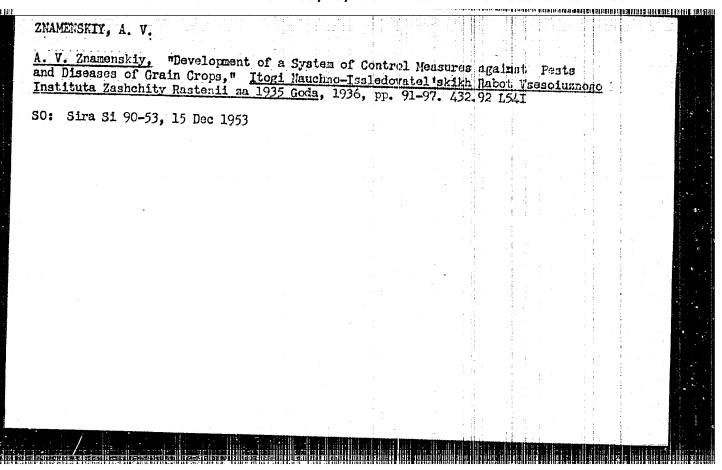
FLUNGYAN, Tat'yana Markovra; ZNAMENSKIY, A.K., retsenzert; GABOTA,

D.M., red.

[Conveyorization of operations in knit goods nammfacture]

Konveierizatsiia protsessov v trikotazhnom protzvodstve.

Moskva, Legkaia industriia, 1964. 140 p. (MIRA 17:9)



ZNAMENSKIY, A. V.

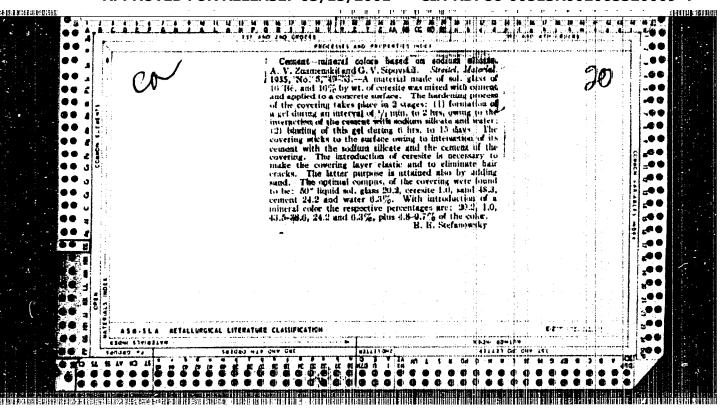
Znamenskiy. A. V. "Plan of Work of the All Union Institute of Plant Protection in 1933-1937," Sbornik Vsesoiuznogo Instituta Zashchity Rastenii, no. 2, 1932 pp. 6-11. 464.9 L542

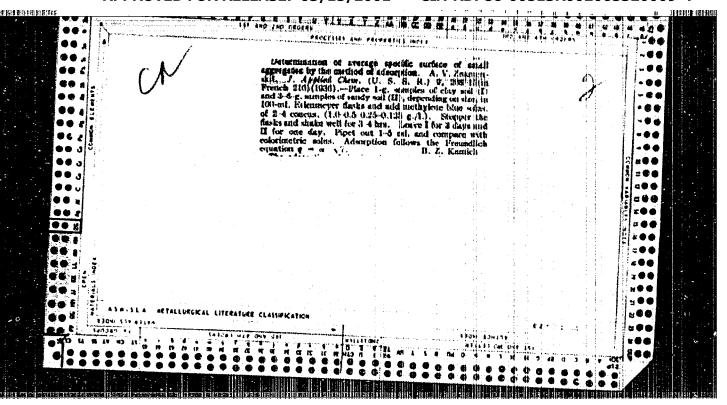
SO: SIRA SI 90-53, 15 Dec. 1953

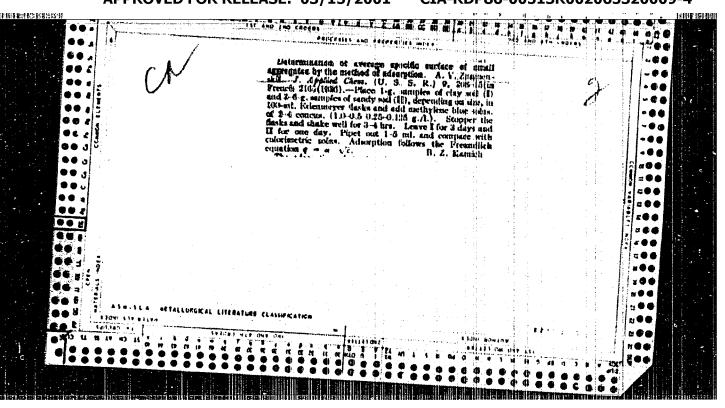
PROKOPOVICH, A.Ye.; ACHERKAN, N.S., professor doktor tekhnicheskikh neuk, nauchnyy redaktor; ZHAMENSKIY A.V., redaktor; RHYNDCHKIMA, K.V., tekhnicheskiy redaktor.

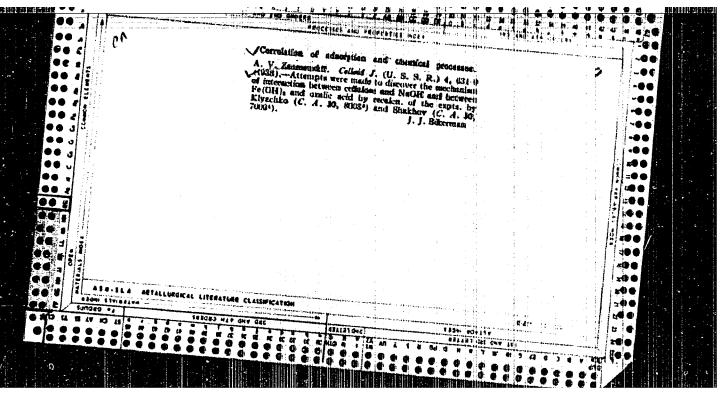
[Modernization of milling machines] Modernizatsiia frezernykh stankov. Moskva, Vsesolusnoe uchebno-pedagog, isd-vo Trudrezervizdat, 1954, 44 p. (MERA 7:12)

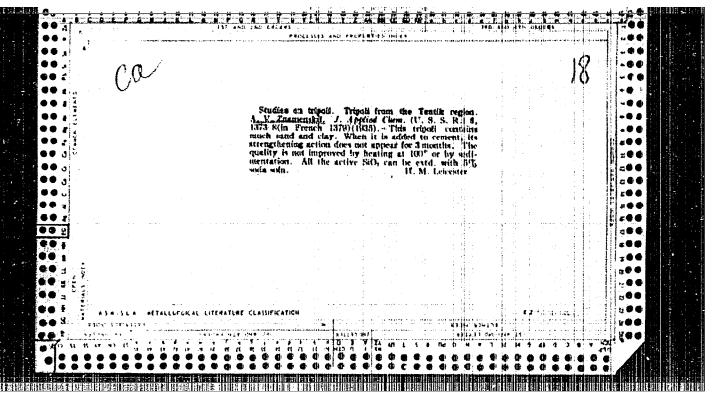
(Milling machines)

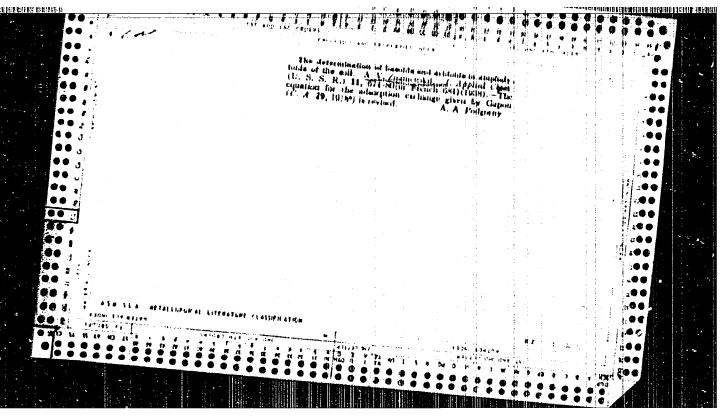


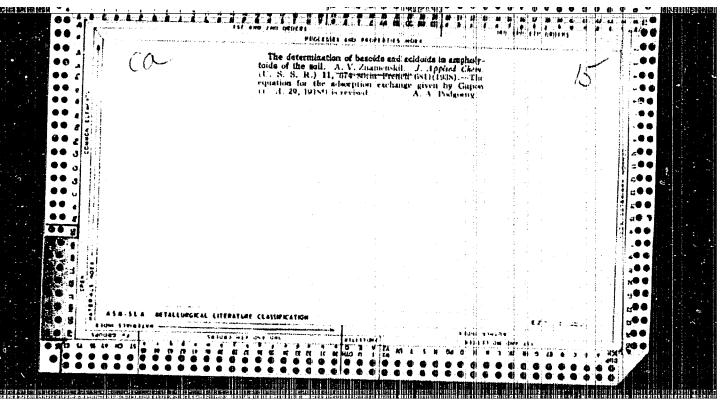


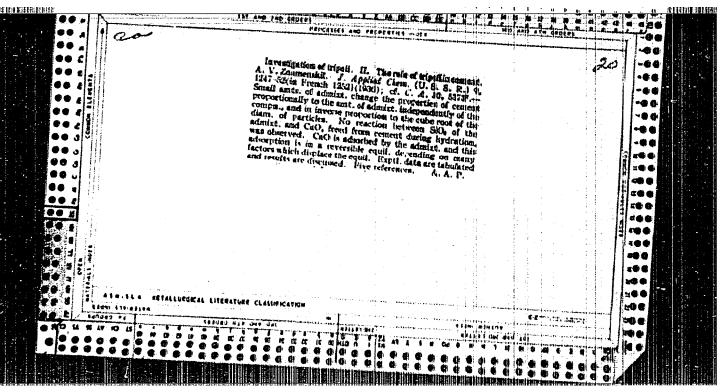


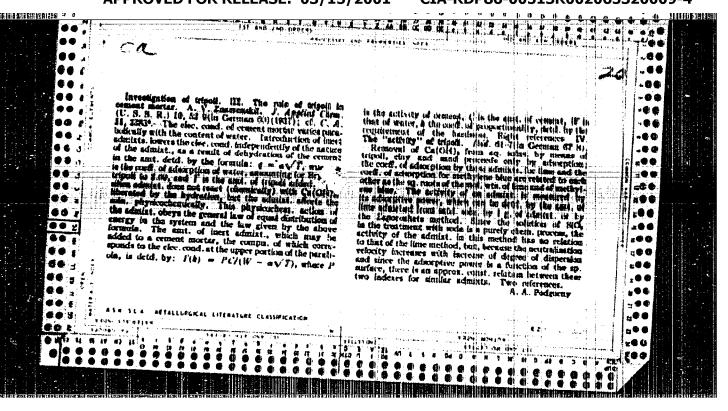


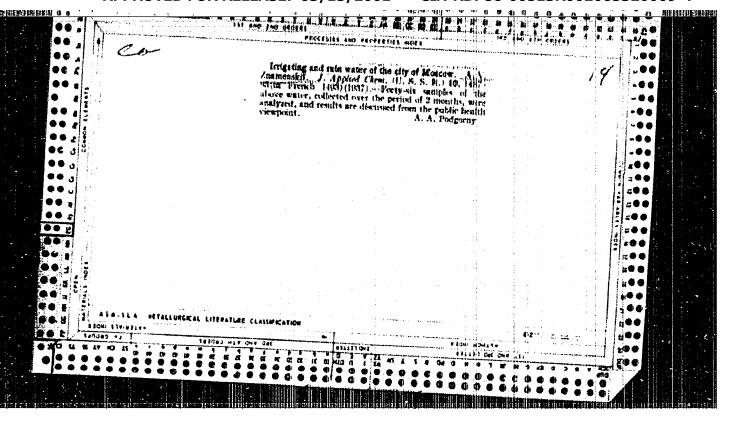


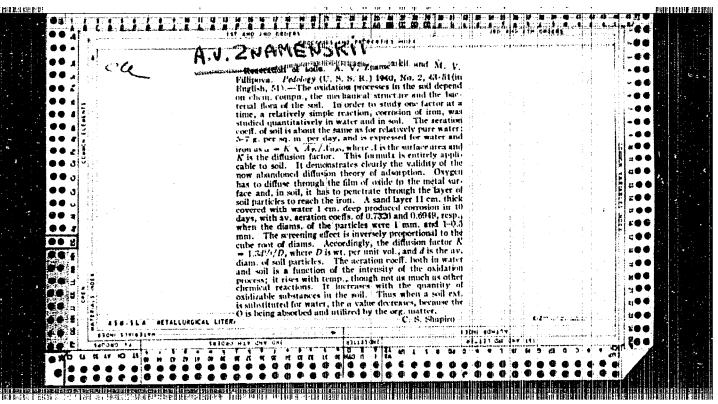




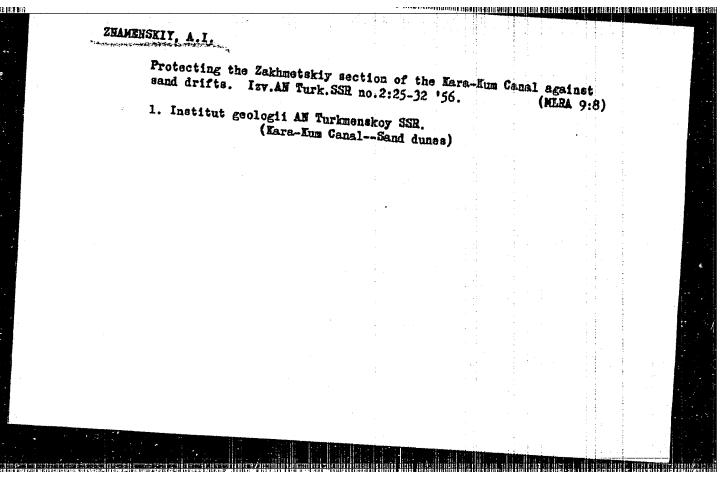


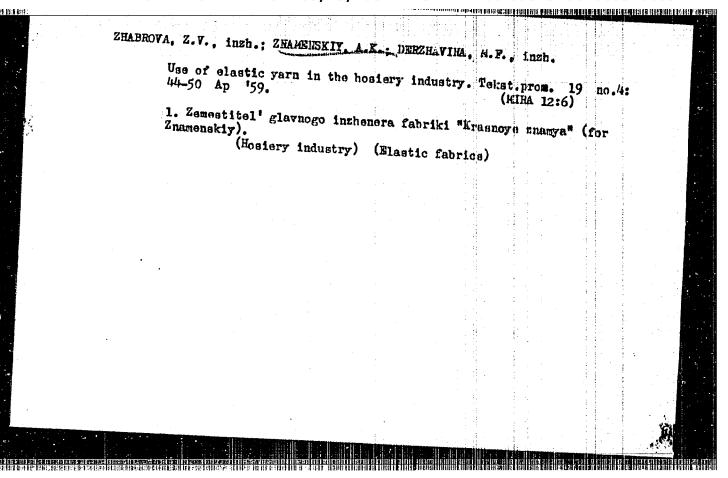


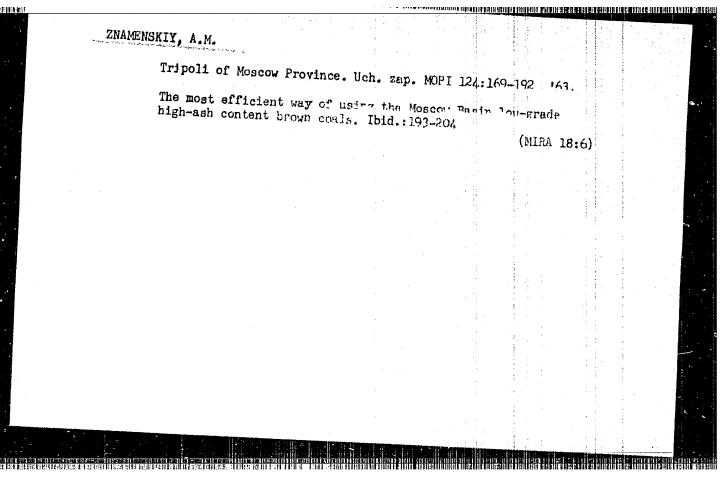


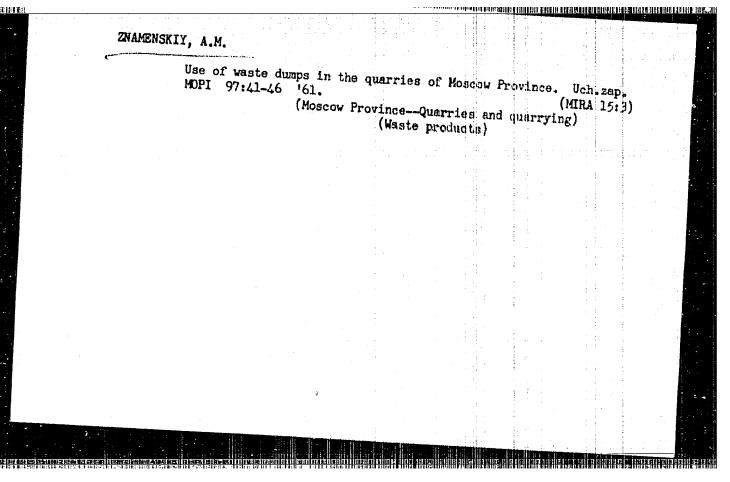


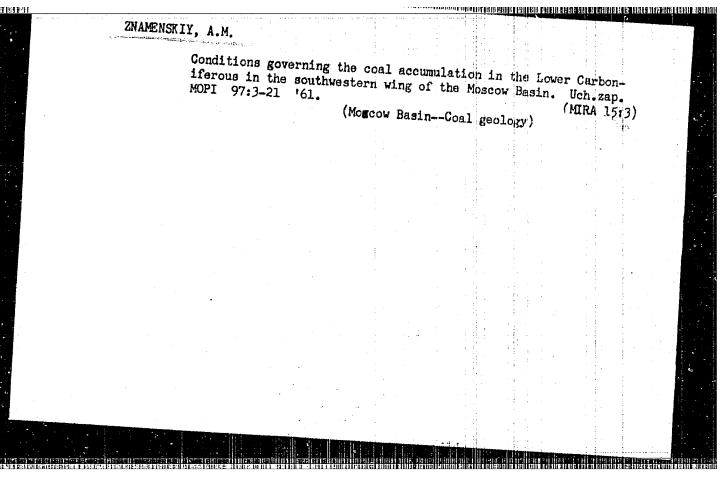
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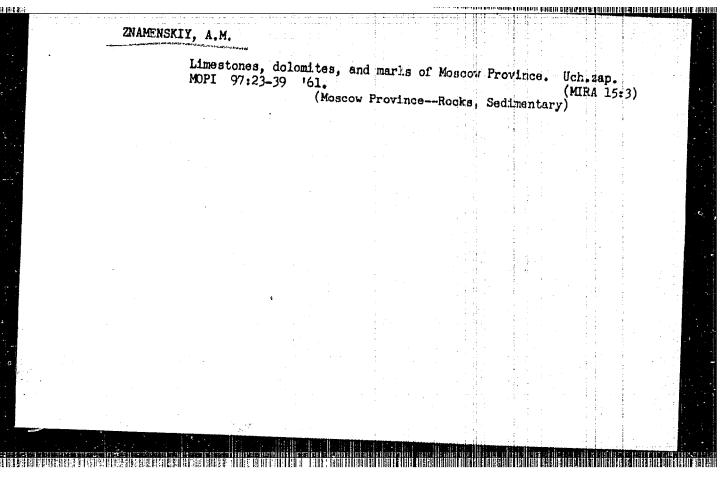


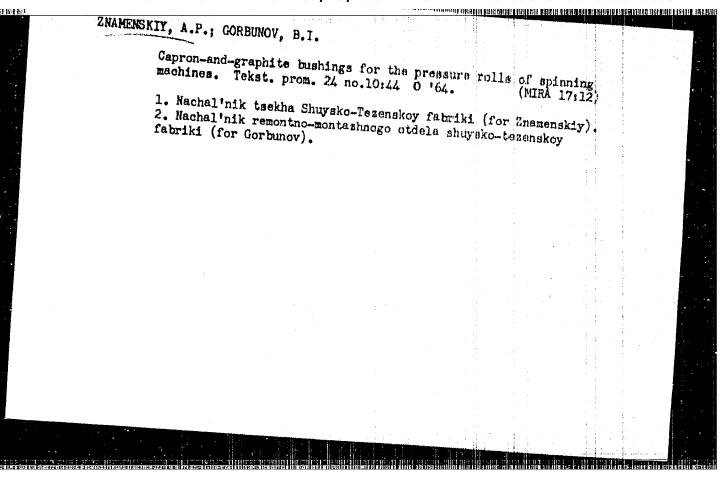


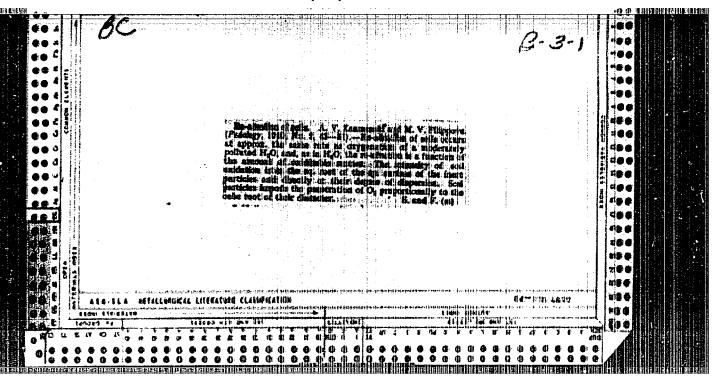


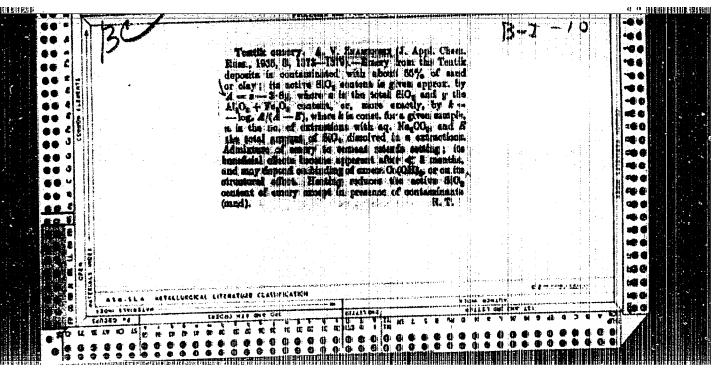


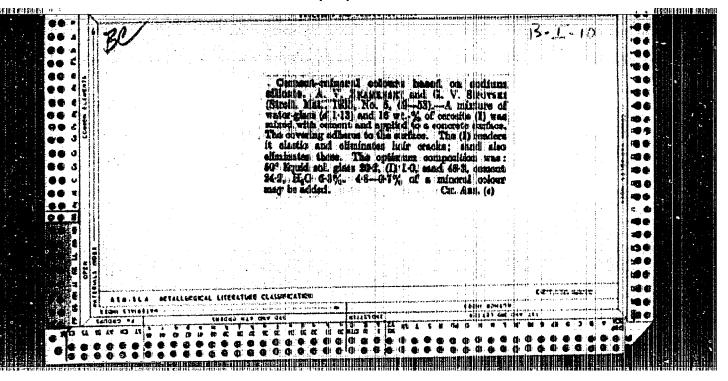


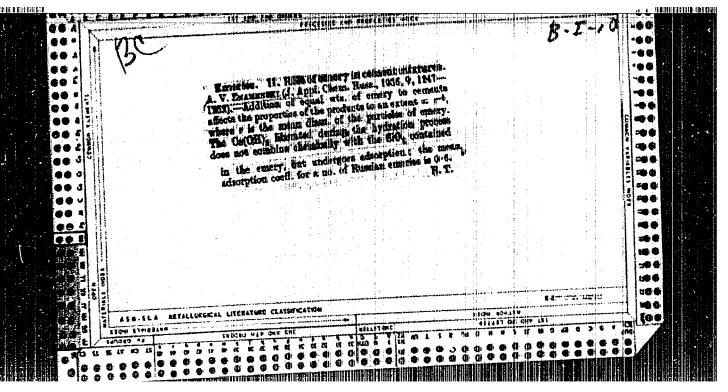


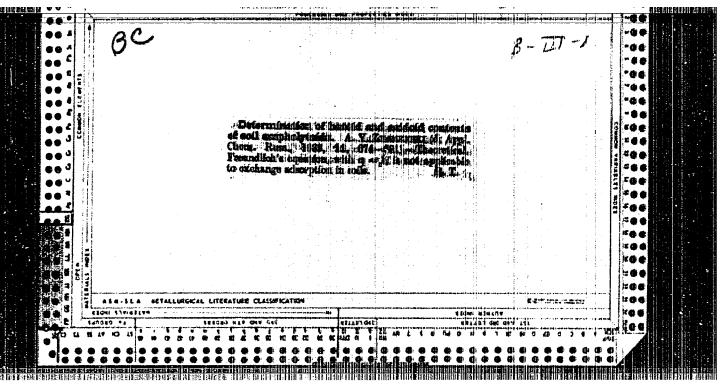


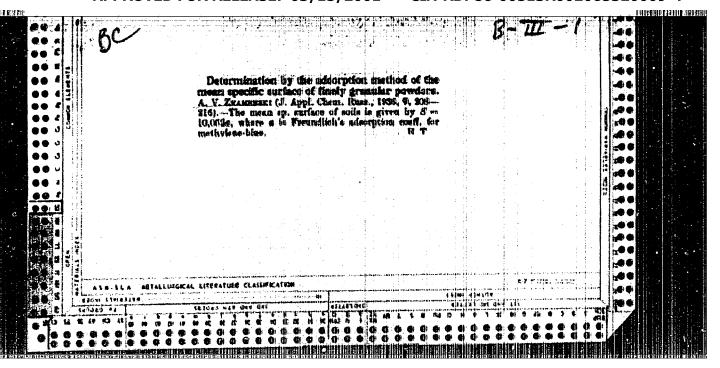


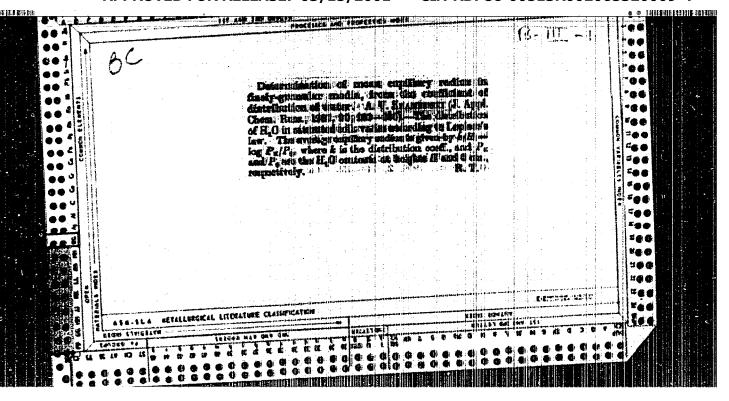


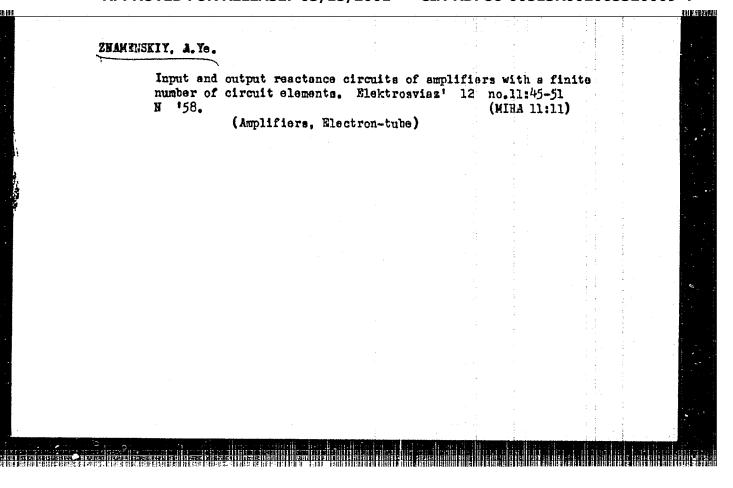












ZNAMENSKIY, Aleksandr Yevgen'yevich; SIL'VINSKAYA, K.A., otv. red.;

PETROVA, V.Ye., red.; SLUTSKIN, A.A., tekhm. red.

[Controlled artificial lines] Reguliruemye iskusstvennye linii.

Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1961.

51 p. (Radio lines) (Delay lines)

(Radio lines)

80V/105-58-11-6/12

AUTHOR:

Znemenskiy, A. Ye.

TITLE:

Input and Output Reactive Networks of Amplifiers With a Finite Number of CircuitElements. (Wkhodmyye 1 wyklodmyye reaktivnyye tsepi usilitelej s konechnym chislom skhemnykh elementov.)

PERIODICAL: Elektrosvyaz', 1958, Nr.11, pp.45-51 (USSR)

ABSTRACT:

These circuits are commonly used to couple from the characteristic resistance of a cable into the capacitance of the grid circuit of a valve or from an anode circuit The relationship between resistance, capaciinto a cable. tance and frequency is expressed by Bode's gain-area theorem (1)(Ref.1). In practice it is impossible without theorem (1)(Ref.1). an infinite number of circuits to confine the total gain-The expression for k area between definite limits. (middle of p.46) measures the extent to which such an attempt is successful with a finite number of elements. The most generally encountered transfer function is that It will be assumed that the amplification is to of (3). be as constant as possible between the upper and lower

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507/106-58-11-6/12

Input and Output Reactive Networks of Amplifiers With a Finite Number of Circuit Elements.

limits of frequency and outside this range is to fall off as rapidly as possible. It is well-known that such a response is guaranteed by the use of a Chebyshev polynomial (Ref.2). After allowing for any transformed reactances, the circuits considered are those in Fig. 3 and the response to be aimed at is in Fig. 4. Upon substitution of the expression for the Chebyshev polynomial, the transfer function becomes (4) which is valid for circuits with even numbers of elements. The corresponding expression for utilization coefficient, k, is (5). The denominator of the expression to be integrated in (5) is given trigonometrically in (6). By changing the variable as in (8) the integral is evaluated in (9). Fig. 5 is the graph of the Chebyshev function plotted in terms of the substituted variable and it may be easily confirmed that the integral in the numerator of (5) can be approximately reckoned equal to the shaded area within the rectangle. Even in the extreme case when the number of circuit elements is 2 the error due to this is only about 1% when the

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Input and Output Reactive Networks of Amplifiers With a Finite Number of Circuit Elements.

permissible pass-band ripple is \$\varepsilon = 0.17\$ and the frequency ratio \$\cong = 5\$. Substituting the formal expression for the area of the rectangle we arrive at an approximation to \$\kappa(10)\$. The latter enables us to study the effect of \$\kappa(10)\$ on pass-band distortion and the number of elements for any given ratio of upper to lower frequency \$\langle \cdot\). Fig.6 is a typical family of curves for \$\cong = 5\$. A simple "rectangular filter" interpretation of Bode's formula would give the circuit gain as \$\langle 2\right)\$. Allowing for the utilization factor, \$\kappa,\$ this becomes \$\langle 11\right)\$. For example, if the stray capacitance is \$\langle 10\$ pF and the cable resistance is \$\langle 135\$ ohms, and the pass-band \$\langle 8\$ kc/s wide, then the maximum gain according to Bode is \$\langle 2\$ nepers. With a Chebyshev response however having a distortion \$\varepsi = 0.02\$, and a frequency ratio \$\cong = 5\$, the gain is \$\langle 75\$ nepers when the number of circuit elements is \$n = 4\$. Increasing \$n\$ to 6 gives \$\langle 3.95\$ nepers and for \$n = 10\$ the gain is \$4.1\$ nepers. Starting from the transfer function with Chebyshev polynomial \$\langle 4\right)\$ the actual design of the circuit proceeds

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Input and Output Reactive Networks of Amplifiers With a Finite Number of Circuit Elements.

by decomposing this formula into factors (Ref.4) using (7). The result is (12). This leads to the input impedance (13). It is also possible to design for a more elaborate response by incorporating equalizing action as described in Ref.6. Instead of (4), (14) must then be used. In this latter case it may prove however more advantageous to use the expression due to A.F. Beletskiy (Ref.7). Prof. A.F. Beletskiy is thanked for posing the problem. There are 6 figures and 7 references, of which 6 are Soviet and 1 English.

SUBMITTED: February 3, 1958.

Card 4/4

TIMOSHENKO, V.V.; MARTYNISHKIN, A.M.; TSUKANOV, V.P.; GARGO, Ya.V.;

SHIKOV, I.P.; MIKONOV, A.V.; POSTNIKOV, V.P.; HOROLEV; G.D.;

ARTHMONOV, A.M.; TEMPIKOV, S.N.; KABLUKOVSKIY, A.P.; MAKHOV, A.Kh.;

KOTIKOV, A.Kh.; ZRAPERKIY, B.A.; ZUYEV, T.I.; POZDNYAKOV, A.P.;

BALAGHOV. S.A.; YENMONHIN, I.P.

New design of electrode holders for electric-arc smelting furnaces.

Prom. energ. 15 no.8:13-14 Ag '60. (MIRA 15:1)

(Electric furnaces)

ZNAMENSKIY, B.V.; FAKIDOV, I.G.

Electric resistance and its changes in the magnetic field of a polycrystalline alloy of Cu+22.8 at. \$\rho\$/o Mn. Fig. met. i metalloyed. 13 no.5:784-785 My '62. (MIRA 15:6)

1. Institut fiziki metallov AN SSSR i Sverdlovskiy gosudarstvennyy pedagogicheskiy institut.

(Copper-manganese alloys-Electric properties)

Some difficult plastic produc	des encountered ts in ship repa	ir. Mor.	roducing flot 2	synthe 5 no.21	37 F	nd 165. MIRA 18:4)	
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# ZNAMENSKIY, B.V.; FAKIDOV, I.G. Superparamagnetic properties of certain antiferromagnetic alloys of the system Cu - Mn. Fiz. met. i metalloved. 14 no.31391-395 S '62. (MIRA 15:9) 1. Institut fiziki metallov AN SSSR i Sverdlovskiy gosudarstvennyy pedagogicheskiy institut. (Copper-manganese alloys--Magnetic properties)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R002065320009-4"

5/126/62/014/003/007/022 E039/E420

AUTHORS:

Znamenskiy, B.V., Fakidov, I.G.

TITLE:

Superparamagnetic properties of some antiferromagnetic

alloys of the Cu-Mn system

PERIODICAL: Fizika metallov i metallovedeniye, v.14, no.3, 1962,

391-395

Previous work by the authors and other workers is extended. TEXT: The magnetic properties of the polycrystalline alloy Cu + 22.8 at.% Mn are investigated in magnetic fields up to 200 k 0e and in the temperature range from 56 to 450°K. The method of preparation of the samples and the production of pulsed magnetic fields of 20 k 0e is as described in earlier papers. It is shown that in magnetic fields of up to 30 k 0e the approach to magnetic saturation follows the law

$$\sigma_{H,T} = \sigma_{\infty,T} \left(1 - \frac{\Lambda}{H^2}\right) \tag{5}$$

where  $\sigma$  is the magnetization and H the magnetizing field. For fields larger than 30 k 0e the square law begins to change and Card 1/2

Superparamagnetic properties ...

S/126/62/014/003/007/022 E039/E420

for fields above 75 k 0e the law of approach to saturation is

$$\sigma_{H,T} = \sigma_{\infty,T} \left(1 - \frac{B}{H}\right) \tag{6}$$

The presence of ferromagnetic clusters in an antiferromagnetic matrix can lead to the appearance of terms of the form B/H in Eq.(6) which become dominant in very strong fields. No firm conclusion is drawn on the nature of the ferromagnetic clusters in the investigated alloys. Preliminary measurements on Cu-Mn alloys with an Mn content of 2.4, 5.3 and 7.5 at.% show that these alloys possess analogous magnetic properties. There are 6 figures.

ASSOCIATIONS: Institut fiziki metallov AN SSSR

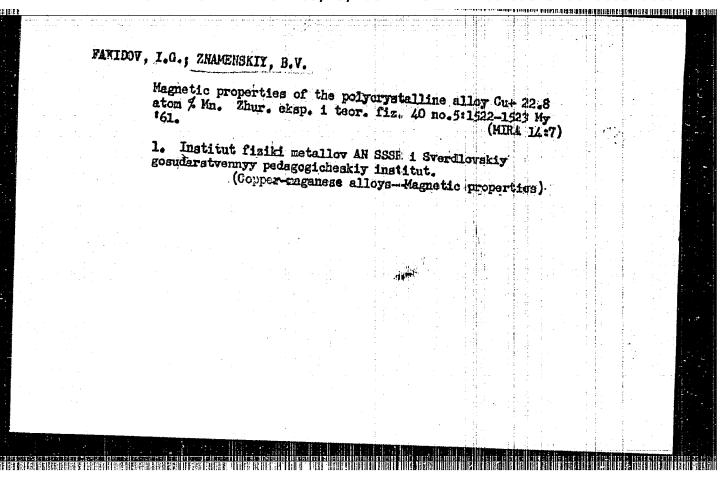
(Institute of Physics of Metals AS USSR)

Sverdlovskiy gosudarstvennyy pedinstitut (Sverdlovsk State Pedagogical Institute)

SUBMITTED:

March 26, 1962

Card 2/2



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8/056/61/040/005/019/019 B109/B212

AUTHOR:

Fakidow, I. G., Znamenskiy, B. V.

TITLE:

Magnetic properties of the polycrystalline alloy

Cu + 22.8 atom% Mn

PERIODICAL:

Zhurnal eksperimental noy i teoreticheskoy fiziki, v. 40, no. 5, 1961, 1522 - 1523

TEXT: Measurements were done with an allow consisting of Cu + 22.8 atom% Mn. The alloy had been obtained by h-f melting and had been subjected to a long tempering and subsequent hardening. It was found that the magnetic susceptibility of the alloy is independent of the field strength in fields up to 3000 oe and reaches a maximum at a temperature of 940 K. The magnetocaloric effect had a negative sign in the field range mentioned. The authors, therefore, came to the conclusion that the alloy is an anti ferromagnetic material with a Neel point near 94° K. This antiferromagnetic material developed typical ferromagnetic properties at temperatures below  $T_{\rm N}$  when exposed to external field exceeding a critical value  $H_{\rm p}$ . Measurements of the (now positive) magnetocaloric effect demonstrated the Card 1/4

Magnetic properties of the ...

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occurrence of a spontaneous magnetization. The magnetization reaches its saturation value in fields above 10.000 oe. The value of this critical field strength will change with varying temperature; e. g., at 56° K it amounts to 4000 oe. Above 94° K the alloy is paramagnetic for all values of the external field and it obeys the Weiß-Curie law. Results are shown in Figs. 1 and 2. It is noted that the alloy investigated resembles the well-known intermetallic compound MnAu, with respect to its magnetic properties; it is also pointed out that a neutron-diffraction study of the magnetic structure of the Cu-Mn alloy and a comparison with that of MnAu, would be very valuable. The authors thank V. N. Novogrudskiy and E. A. There are 2 figures and 9 non-Soviet-bloc references.

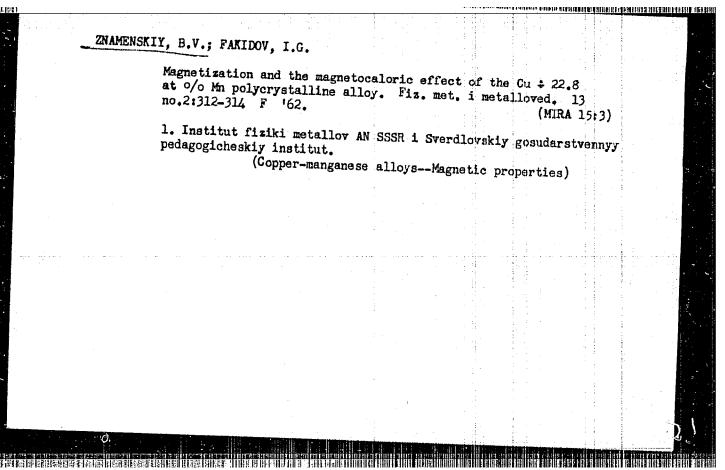
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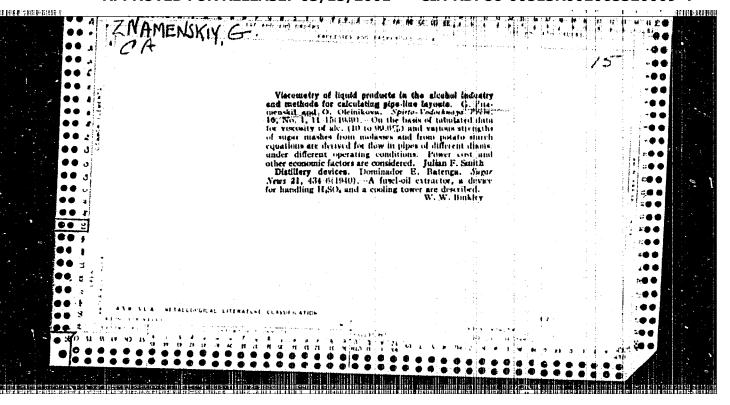
Institut fiziki metallov Akademii nauk SSSR (Institute of Physics of Metals, Academy of Sciences USSR). Sverdlovskiy gosudarstvennyy pedagogicheskiy institut (Sverdlovsk State Pedagogic Institute).

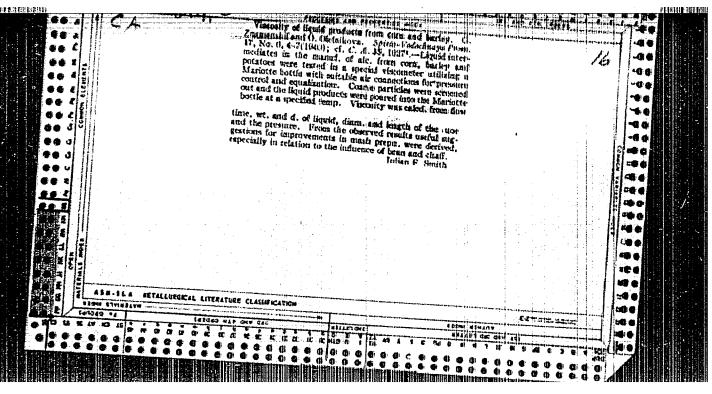
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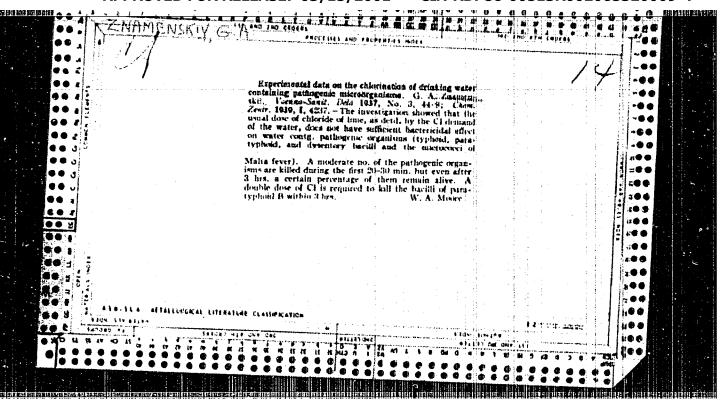
February 24, 1961

Card 2/4









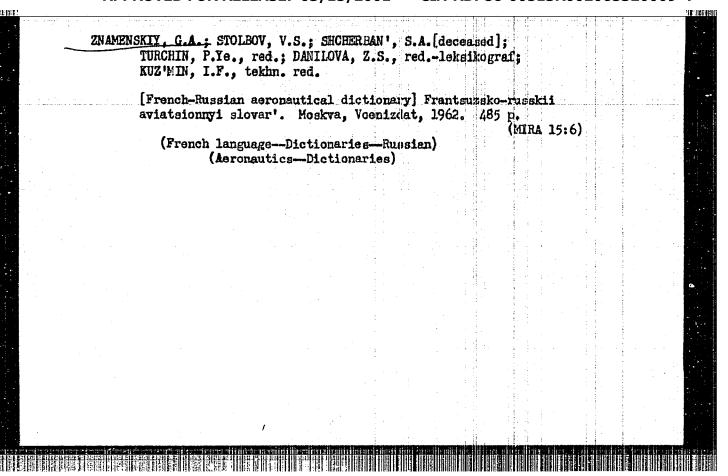
KONDRAT'TEVA, V.F.; BELOHOVSKIY, G.D., professor, saveduyushchiy; ZHAHERSKIY, G.A., professor, direktor.

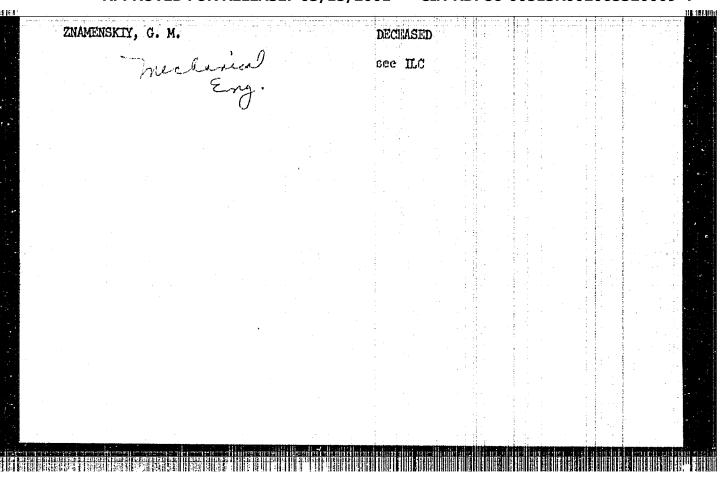
Preparation of a dry medium for the detection of B. Perfringens. Author's abstract. Enur.mikrobiol.epid.i immun. no.8:64-65 Ag. '53. (KLRA 6:11)

1. Kafedra mikrobiologii Gosudarstvennogo ordena Lenina instituta usoverordena Lenina institutu usovershenstvovaniya vrachey im. S.M.Kirova (for Belovskiy). 2. Gosudarstvennyy Znamenskiy, G.A.). (Bacteriology—Gultures and culture media)

USSR/Medicine - Epidemiology FD-1646 Card 1/1 : Pub. 148-26/28 Author : Znamenskiy, G. A. and Belyakov, V. D. : Certain theoretical problems of epidemiology Title Periodical : Zhur. mikro, epid. i immun. 7, 103-108, Jul 1954 Abstract : A discussion of epidemiology as a "social-medical" science from the dialectical viewpoint is given. Epidemiology is defined from the point of view of communist ideology. No references are cited. A quotation from Engel's is used to illustrate the author's contentions. Institution Submitted : : August 15, 1953

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POPOV, V.I.; DOEROSERDOV, L.L.; STABNIKOV, V.H.; ANDRUTEV, K.P.;

ZHAMENSKIY, G.H., professor, reteensent; EXORLO, D.I., kandidat tekhnicheskikh nauk, retsensent; EXEMBUR, P.V., kandidat tekhnicheskikh nauk, retsensent; IZRALENYCH, L.A., inubaner, retsensent; HASLOVA, Ye.F., redaktor; DUBOYKINA, N.A., tekhnicheskiy redaktor.

[Technological equipment for fermentation industries] Nekhnologicheskoe oborudovanie brodil'nykh proisvodetv. Koskva, Pishchapromidat, 1953. 515 p.

(MERA 7:8)

(Distilling industries) (Brewing industries)

# Electrolysis of acid solutions of zinc sulfate at very low current densities. Zhur. prikl. khim. 33 no.12:2728-2730 D '60o. (NIRA 14:1) 1. Duepropetrovskiy khimiko-tekhnologicheskiy institut. (Zinc sulfate)

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ZNAMENSKIY, G.N.; ZHUK, A.P.; STENDER, V.V.

Effect of the conditions of electrolysis of zinc chloride acid solutions on the magnitude of the true surface of zinc precipitates. Ukr. khim. zhur. 31 no.4:367-372 '65.

(MIRA 18:5)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.

CHAYKOVSKAYA, V.M.; AFANAS'IEV, G.F.; ZNAMENSKIY, G.N.

Properties of acid solutions of zinc sulfate. Zhur,prikl,khim.
36 no.6:1355-1357 Je '63. (MIRA 16:8)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.
(Zinc sulfate) (Sulfuric acid)

ZNAMENSKIY, G. N., PAKHOMOVA, G. N., and STENNER, V. V.

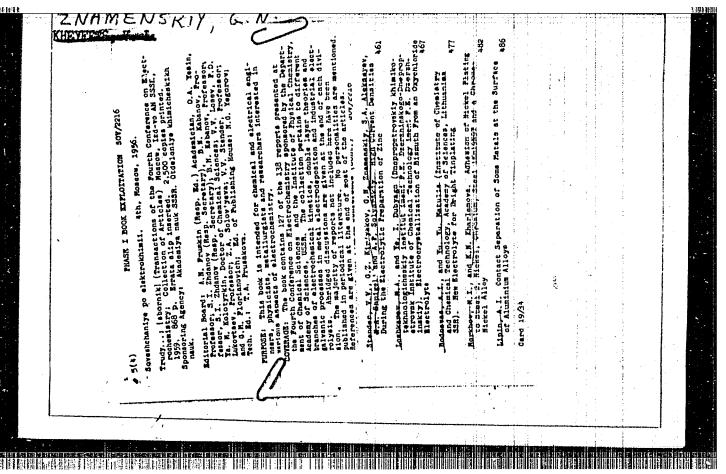
"Selection of composition of electrolyte, material for the cathode and obtaining of zinc at high current densities with use of ordinary stationary and continuous-action mechanized electrolyzers (drum, disk and others)".

Report presented at the Intervuz Conference on Electrodeposition of Nonferrous Metals, Ural Polytechnical Institute im S. M. Kirov, Sverdlovek, held from 27-30 May 1963

(Reported in Tsvetnyye Metally, No. 10, 1963, pp. 82-84)
JPRS 24,651

19 May 64

"APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R002065320009-4



S/020/61/157/002/011/020 B103/B215

AUTHORS:

Znamenskiy, G. N., Gamali, I. V., and Stender, V. V.

TITLE:

Peculiarities of electrodeposition of metals from extremely

pure solutions

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 2, 1961, 335-337

TEXT: The authors describe experiments on the electrodeposition of the electronegative metals zinc and manganese from extremely pure solutions. They found that the chemically pure salts usually used for studying the kinetics of such processes, do not guarantee the required experimental purity, not even when they have been recrystallized. Small amounts of organic impurities in the solution hamper the determination of the influence of surface-active admixtures on the structure of the cathodic deposit, and on the value of cathodic polarization. Therefore, the authors used extremely pure ZnSO<sub>4</sub> solutions produced as follows: metallic sinc contained 10-5% of admixtures and was produced by sublimation in a nitrogen atmosphere,

Card 1/5

8/020/61/157/002/011/020 B103/B215

Peculiarities of electrodeposition ...

Card 2/5

following the method of the Gipronikel' Institute. Chemically pure sulfuric acid was distilled. Water was boiled in potassium permanganate, and then distilled three times, but 1/3 (first portions) of the distillate was not used. The solution thus obtained was boiled again, and then for a long while exposed to current from platinum electrodes. By using standard concentrations (Zn 60 g/1, H<sub>2</sub>SO<sub>4</sub> 100 g/1) at 20°C, the authors obtained from this solution a current output of zinc up to 60% at low current density (1 a/m²), and up to 99% at 5 a/m². Zinc, however, was intensively dissolved already at 30 a/m² in an electrolyte of chemically pure ZnSO<sub>4</sub> which had been recrystallized three times. The electrode potential of high-purity zinc without current or with weak current is shifted by 25-30 my toward negative values (as compared to the potential of the conventional HD (TsO) electrolytic zinc). Only glass parts can be used in the electrolytic cell when using high-purity solutions. Plastics (viniplast, organic glass, polyethylene) change the structure of deposited zinc. Crystals become irregular and small. On the basis of these results, the authors worked out a method of

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Peculiarities of electrodeposition...

measuring the active surface of zinc, which gives well reproducible results, and is also applicable to other metals (Ref. 5, V. V. Stender, G. N. Znamenand is also applicable to other metals (Ref. 5, V. V. Stender, G. N. Znamenskiy, Nauchn. dokl. vyssh. shkoly, ser. khim., 1, 189 (1959)). For similar skiy, Nauchn. dokl. vyssh. shkoly, ser. khim., 1, 189 (1959)). For similar experiments with manganese, the authors used an electrolyte of 50 g/l of experiments with manganese was manganese (as chloride), and 110 g/l of ammonium chloride. Manganese was dissolved at pH >1. The solution was purified with manganese sulfide which was obtained from a previously purified manganese chloride solution and ammonium sulfide. Ammonium sulfide was obtained by absorption of hydrogen sulfide by an ammonia solution in water distilled twice. H<sub>2</sub>S was obtained

from chemically pure sodium sulfide previously purified from arsenic. After purification of sulfide, the manganese electrolyte was electrolytically treated in a glass vessel at a current density of 20.50 a/m². In the vessel, there was an anodic glass cell with a glass diaphragm, a platinum anode, and a cathode of pure aluminum. The catholyte was constantly stirred. Anodic gases were sucked off. Manganese hydroxide which was deposited in the catholyte and oxidized to dioxide by atmospheric oxygen, adsorbed all the catholyte and oxidized to dioxide by atmospheric oxygen, the solution sorts of admixtures from the electrolyte. After filtration, the solution was subjected to another electrolytic treatment. This process was repeated

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Peculiarities of electrodeposition...

S/020/61/137/002/011/020 B103/B215

three times (altogether for 200-220 hr). Aluminum hydroxide obtained by anodic dissolution of A-00 (A-00) aluminum in a pure manganese chloride solution at a current density of 10 a/m2, was then added to the solution. Finally, the solution was filtered with a glass filter. From this solution the authors deposited manganese at 20°C, a pH of 7, and a current density of only 10 a/m². At 2000 a/m², the current output of manganese was 90%. All manganese deposits were of clear crystalline structure, even when suspended particles of manganese hydrates were added to the catholyte. The authors hold the opinion that imperfect crystalline deposits of manganese, or the absence of deposits at low current densities are due to admixtures in the electrolyte. The authors found that the crystallization of zinc and manganese in pure electrolytes does not essentially differ from the electrocrystallization of silver (A. T. Vagramyan, Ref. 8, Elektroosazhdeniye metallov - Electrodeposition of Metals -, Izd. AN SSSR, 1950). They state that the kinetics of this process and the action of admixtures in extremely pure electrolytes should be studied. There are 2 figures and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

Card 4/5

Peculiarities of electrodeposition...

\$/020/61/137/002/011/020 B103/B215

reference to the English-language publication reads as follows: Ref. 2: O. M. Bocklis, B. Conway, Trans. Farad. Soc., 45, 989 (1949).

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskiy institut im. F. E. Dzerzhinskogo (Dnepropetrovsk Institute of Chemical Technology imeni F. E. Dzerzhinskiy)

PRESENTED:

October 15, 1960 by A. N. Frumkin. Academician

SUBMITTED:

May 9, 1960

Card 5/5

CIA-RDP86-00513R002065320009-4" **APPROVED FOR RELEASE: 03/15/2001** 

5(4) AUTHORS:

Stender, V. V., Znamenskiy, G. N.

807/156-59-1-49/54

TITLE:

The Determination of the Active Current Density in the Case of the Electro-precipitation of Zinc at High Current Densities (Opredeleniye deystruyushchey plotnosti toka na primere elektroosazhdeniya tsinka pri vysokikh plotnostyakh toka)

PERIODICAL:

Hauchnyye doklady vysshey shkoly. Khimiya i khimicheskeya tekhnologiya, 1959, Nr 1, pp 189 - 192 (USCE)

ABSTRACT:

In the electro-crystallization of metals various factors (current density, temperature, time, ion demonstration, etc) cause a continuous change in the electrolytic precipitation, and the determination of the actual current density is thus rendered difficult. The lager under consideration studies the changes in the active surface on the basis of the electrolytic precipitation of zinc at high current densities (6000 a/m²), the above-mentioned changes being particularly well noticeable in this process. The active surfaces of the zinc precipitations obtained under different conditions were judged on the basis of hydrogen hypertension. Zinc was used that had been distilled in a nitrogen atmosphere. In the

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#### "APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R002065320009-4

The Determination of the Active Current Density in the SOV/156-50-1-49/54 Case of the Electro-precipitation of Zinc at High Current Densities

same way water and sulfuric acid were purified to a high degree by means of distillation. A platinum plate was used as an anode, zinc monocrystals and various zinc precipitations served as a cathode. The potential-measuring was effected directly with respect to a saturated calonel electrode. Diagrams show the shifting in a positive direction of the hydrogen hypertension, as a function of time and temperature. Tables present the calculated enlargement of the active zink surface as compared with the visible surface. According to these data the actual current density decreases rapidly, which explains the slowing-down of precipitation formation. With a precipitation of 2 mm thickness, the critical current density at which a re-dissolution of zine may occur is almost reached. The method described can also be employed for the investigation of the surfaces of other pure netals (Cu,Cd, etc). There are 2 figures, 1 table, and 6 references, 4 of which are Soviet.

Card 2/3

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The Determination of the Active Current Density in the SUV/156-59-1-49/54 Case of the Electro-precipitation of Zinc at High Current Densities

ASSCCIATION: Kafedra tekhnologii elektrokhimichoskikh proizvodstv Dnepro-

petrovskogo khimiko-tekhnologicheskego inslituta (Chair of

the Technology of Electrochemical Products of the Dnepre-

petrovsk Institute of Chemical Technology)

SUBMITTED: July 15, 1958

Card 3/3

NAGIRNYY, V.M.; ZNAMENSKIY, G.N.

9 114 0

Some features of the deposition of sine and cadmium on various cathodes. Ukr. khim. shur. 31 no.9:962-965 165.

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut imeni F.E. Dzerzhinskogo.

ZNAMENSKIY, G.N.; STENDER, V.V.

Effect of the conditions of electrolysis on the size of the active surface of cathodic zinc. Zhur.prikl.khim. 37 no.7:

14.78-1483 Jl \*64.\*

(MIRA 18:4)

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R002065320009-4"

5 1310

21,008 8/080/61/054/006/010/020 D247/D305

AUTHORS:

Znamenskiy, G.N., Mazanko, A.F., and Stender, Y.V.

TITLE:

Characteristics of codeposition of zinc and cobalt

from sulfate solutions

FERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 6, 1961,

1305 - 1311

TEXT: The present paper reports a study of phase structures and the nature of their distribution during codeposition of Zn and Co. Attention is mainly directed to the distribution of H overpotential in Zn-Co alloys which has a considerable influence on the process of electrolytic Zn separation. Alloys were thermally prepared from 99.999 % pure Zn and 99.98 % electrolytic Cd which were dissolved in chemically pure H<sub>2</sub>SO<sub>4</sub> and diluted 3-fold with distilled water. Zn-Co alloys were prepared from an electrolyte of composition 30-90 g/l Zn and 10-100 g/l Co. or pH 2-3, temperature 20°C, with current density of 250-300 A/dm<sup>2</sup>. The alloys, before measuring H

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Characteristics of codeposition ...

everpotential, were polished and ground with subsequent cathode degreasing and rinsing. Polarization curves were obtained with a 1N H<sub>2</sub>SO<sub>4</sub> solution at 20°C. Fig. 1 shows the effect of Co content in the alloy on overpotential of H liberated in both thermal and electrolytic alloys, a marked reduction of overpotential of H separation being observed on increasing Co content to 5 % though lower by 80-100 mv in electrolytic than in thermal alloys (for the same Co content). Microstructures of the two types of alloy are also compared. The thermal alloy containing 4.6 % Co is a 2-phase system of Zn and Co<sub>5</sub>Zn<sub>21</sub> which is in accordance with the equilibrium graph. The structure of the electrolytic alloy with almost the same Co content is also 2-phase, but the amount of the more positive phase is much less and approximately corresponds to the Co content. These differences were verified by heat treatment of the electrolytic alloy at 350°C for 6 hours, followed by again measuring H overpotential and studying the microstructure. The magnetic properties of the two alloy types were examined. Co<sub>5</sub>Zn<sub>21</sub> is not ferromagnetic and the thermal alloys with 0 - 20 % Co were also

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24008

Characteristics of codeposition ...

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found to be not ferromagnetic. Electrolytic alloys with more than 1 % Co were found to have clearly defined ferromagnetic properties which disappeared after heat treatment. The marked displacement of potentials shown on curves 5 and 6 (Fig. 8) indicates that the inception of intensive Zn dissolution is due to reduction of active current density below the critical vale. To determine inception of an auto-solution of cathode Zn in relation to current density maintaining Co constant in the electrolyte, the potential valuation of Zn residue with time for varying current densities was measured, using a solution of 35 g/l Zn 150 g/l H2SC4 and 20 mg/l With current densities of 3000 and 6000 A/m², the potential evenly manges to positive values; for 6000 A/m², the gradient of the more rapidly (Ref. 15: G.N. Znamenskiy, Byull, tsvetn, met., 1959, vol. 11, no. 136, p. 24). The auto-dissolution of the Zn deposit begins at 6000 A/m² after electrolysis for 100 minutes, at 5000 A/m² after 80 minutes, and at 1000 A/m² after 10 minutes. There

Card 3/6

Account of the first fir

Chracteristics of codeposition ...

21.008 5/080/61/034/006/010/020 D247/D305

are 9 figures and 16 references: 12 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as p. 792; G.M. Westrip, J. Chem. Soc., 1924, vol., 1922, vol., 41, Harkins and H. Adams, J. phys. Chem., 1926, vol., 26; p. 205.

ASSOCIATION: Dnepropetrovskiy tekhnologicheskiy institut (Dnepro-

petrovsk Technological Institute)

SUBMITTED:

September 12, 1960

Card 4/6

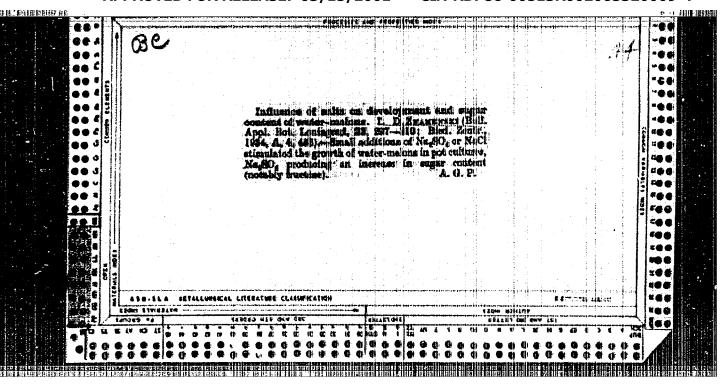
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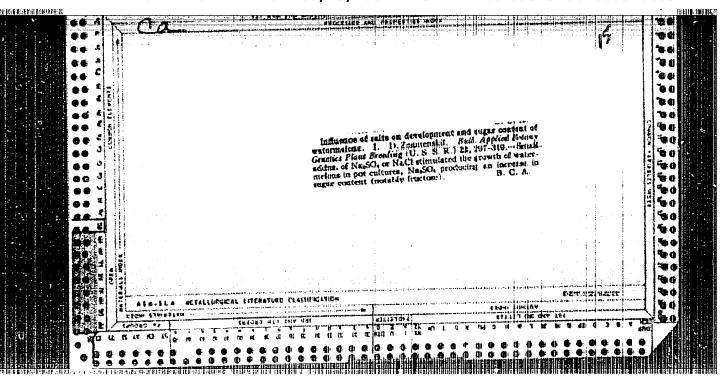
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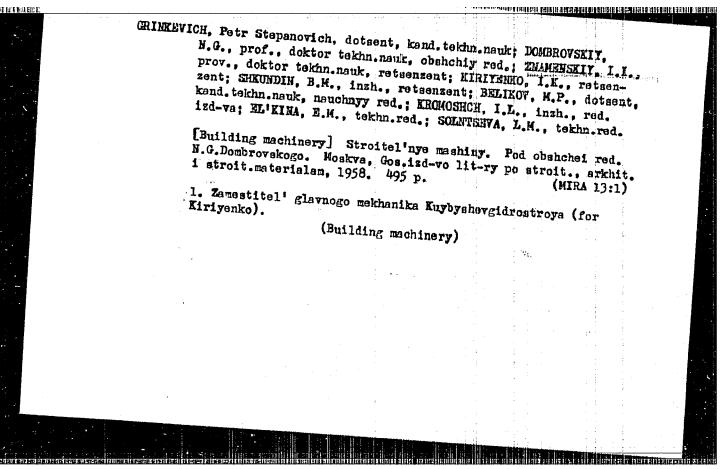
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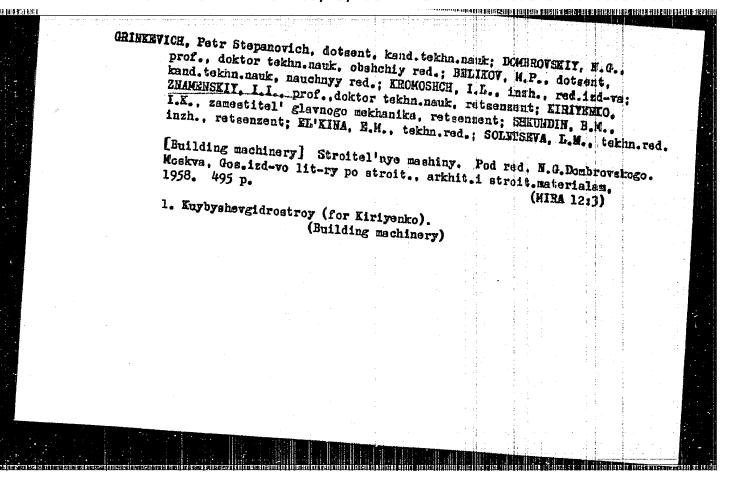
(Technological innovations)

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The Mugan irrigation system and its present condition. Petrograd, 1923, 90 p.

1. Irrigation-Azerbaijan

ZNAMENSKIY, I.I.

The Committee on Stalin Prizes (of the Council of Ministers USSE) in the Tieses or science and inventions amounces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Frince for the years 1952 and 1953. (Sovetskayn Kaltura, Moscow, No. 22-M), 20 Feb - 3 Apr 1954)

Name

Znamenskiy, I.I.

Witle of Work

"Organization and Mechanization of Water Soil Improvement Works" (student manual)

Builputed by

Kazakh Agricultural Institute; Onsk Agricultural Institute imeni S.M. Kirov

80: W-30604, 7 July 1954

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 233 -BOOK Author: ZNAMENSKIY, I. I., Professor Call No.: AF589978 Full Title: ORGANIZATION AND MECHANIZATION OF HYDRO-AMELIORATION WORKS Transliterated Title: Organizatsiya i mekhanizatsiya gidromeliorativnykh Publishing Data Originating Agency: None Publishing House: State Publishing House of Agricultural Literature No. pp.: 523 No. of copies: 15,000 Editorial Staff Editor: Ryabyshev, M. G., Engineer Editor-in-Chief: None Tech. Ed.: Nome Appraisers: Zhurin, V. D., Professor, Doctor Tech. Sci and Fenin, W. K., Dotsent Others: One chapter was written by Lopatin, N. A., Engineer, Assistant Text Data Coverage: This textbook describes the methods and organization of large-scale mechanized hydraulic construction, and the types and uses of individual machines (pumps, excavators, cement mixers, etc.). There are frequent sketches of recent Soviet models, which do not seem to incorporate any new principle.

APPROVED FOR RELEASE: 03/15/2001 CIA-RDP86-00513R002065320009-4"

Organizatsiya i mekhanizatsiya gidromeliorativnykh rabat

The book is of possible interest as indicating the machinery used in the hugh new Soviet hydroelectric and irrigation projects.

Purpose: Approved by the Ministry of High Education USSR as a textbook for hydro-amelioration institutes and university departments.

Facilities: Many Soviet hydroelectric and irrigation projects are mentioned.

No. of Russian and Slavic References: A few scattered references in footnotes.

Available: A.I.D., Library of Congress.

ZNAMENSKIY, Il'ya Ivanovich, prof. [deceased]; LETHEV, B.Ya., red.;

GUREVICH, M.M., tekhn.red.

[Organization and mechanization of work in hydraulic engineering for land improvement purposed] Organizatalia i mekhanizatalia gidromeliorativnykh rabot. Izd.2., peror. i dep. Moskva, Gos. izd-vo sel'khoz.lit-ry, 1960. 639 p.

(HIRA 13:11)

(Hydraulic engineering)

